



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/492,602	01/27/2000	Jason L. Gridley	29423/207	1075
23460	7590	11/20/2003		
LEYDIG VOIT & MAYER, LTD			EXAMINER	
TWO PRUDENTIAL PLAZA, SUITE 4900			FISCHER, JUSTIN R	
180 NORTH STETSON AVENUE				
CHICAGO, IL 60601-6780			ART UNIT	PAPER NUMBER
			1733	

DATE MAILED: 11/20/2003

22

Please find below and/or attached an Office communication concerning this application or proceeding.

CC022

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/492,602	GRIDLEY ET AL.
	Examiner Justin R Fischer	Art Unit 1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 10 September 2003.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 23-27,30-34,40-48,50 and 54-57 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 23-27,30-34,40-48,50 and 54-57 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. §§ 119 and 120

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) All b) Some \* c) None of:  
1. Certified copies of the priority documents have been received.  
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) The translation of the foreign language provisional application has been received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

#### Attachment(s)

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)            | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. . | 6) <input type="checkbox"/> Other: _____ .                                   |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 40-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor (US 4,096,008, of record) and further in view of Wulker (US 5,942,059, of record), the Admitted Prior Art (Page 4, Lines 7-15), and Schelkmann (US 3,855,030, of record). As best depicted in Figure 1, Taylor teaches a retreading apparatus comprising a rotatable hub or drum, a drive adapted to rotate the hub or drum, a cementless cushion gum applicator 11, a tread cutter 16 for cutting a length of tread, a tread dispenser 1 including a tread drive (conveyor) adapted to dispense a length of tread based on the circumference of the tire casing, and a tread applicator 9 adapted to apply the length of tread (Column 3, Lines 1-68). Regarding the cushion gum applicator, while Taylor fails to expressly suggest that said applicator provides a controlled stretch, it is well known in the tire industry, including the retreading industry, to apply a rubber layer such that the velocities of the supply roller and the drum/hub are varied to provide a controlled stretch of said rubber layer upon application. Wulker has been applied to evidence this well-known application technique, specifically suggesting that said technique is applicable to tire retreading (Figure 4, Column 1, Lines 5-15, and Column 4, Lines 25-65). As to the apparatus being adapted to permit the location of the length

of tire tread to be adjustable, it is clearly evident that the conveying system of Taylor is capable of allowing the rubber layer thereon to be adjusted as desired. In particular, it would have been obvious to one of ordinary skill in the art at the time of the invention to adjust the dispensed length of tread in Taylor when using a repeating tread pattern in order to obtain an aesthetic property (match tread pattern) and eliminate any imbalance that would contribute to vibrations as is well known in the tire industry, as shown for example by the Admitted Prior Art (Page 4, Lines 7-15) and Schelkmann (Column 2, Lines 4-12). Thus, the APA and Schelkmann recognize the desire to obtain matching tread ends when using a repeating tread pattern and one of ordinary skill in the art at the time of the invention would have found it obvious to include an adjusting step (conveying system is capable of allowing such a step) to obtain said matching.

While Wulker fails to specifically recite the variation of linear velocities in applying a cushion gum, the reference more generally recognizes the application of a rubber component in a retreading operation via different velocities in order to optimize the adhesion. Furthermore, it is widely recognized in the tire industry that stretching results from varying dispensing speeds and peripheral application speeds. As such, the general suggestion of Wulker would have lead one of ordinary skill in the art at the time of the invention to design the cushion gum application system in a manner that varies the respective speeds to provide the desired stretching.

Regarding the adjusting step, if a repeating tread is used in Taylor, a length of tread based on the circumferential measurement would only have matching ends if the repeating pattern of the tread existed over an exact increment of the circumferential

Art Unit: 1733

length of the casing/cushion gum. For example, using a general example, if a circumferential distance was 55 millimeters and the repeating tread pattern occurred every 10 millimeters, the dispensed tread length, according to Taylor, would be 55 millimeters. However, this would not result in a length of tread having matching tread ends. Therefore, since matching tread ends are desired, as shown for example by the APA and Schelkmann, one of ordinary skill in the art at the time of the invention would have been motivated to adjust the length of tread, either manually or automatically, for the benefits detailed above.

With respect to claim 41 and 42, the apparatus of Taylor includes a lineal measurement device, it being recognized that a measurement with and without the cushion gum can be obtained as desired.

Regarding claims 43 and 44-47, it is well known in the tire industry that the angular rate of the hub or drum can be modified in relation to different tire sizes in order to obtain the same peripheral speed at the surface of the tire casing. This design provides a single apparatus that can accommodate a plurality of tire sizes. Additionally, in view of Wulker, the hub/drum and casing combination are rotated at different speeds as compared to the speed at which the length of rubber is dispensed. In modifying Taylor, the spindle or roll having the cushion gum would be rotated at a lower angular rate to impart a desired degree of adhesion.

As to claim 44, Taylor depicts the use of a rotatable spindle.

Regarding claim 48, Taylor discloses the use of a first application/pressure roller 9 and a second set of pressure or stitching rollers 13, 14.

***Double Patenting***

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 23-27, 30-34, 40-48, 50, and 54-57 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 17 of copending Application No. 09/491,964 in view of Lacy (US 5,695,581) and Wulker (US 5,942,059). As noted above, a timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome this provisional, non-statutory double patenting rejection provided the conflicting application is shown to be commonly owned with this application.

Claim 17 of '964 substantially discloses each of the method limitations required by claim 23 of the current application, only failing to expressly suggest that the cushion gum is unheated and applied at a varying velocity as compared to the peripheral velocity of the tire casing. First, it is well known to perform a cold retreading operation in which the respective components are applied in an unheated state and only heated after each of the respective layers are assembled. Lacy provides one example of such

a cold retreading operation in which the cushion gum (cementless operation) is not heated prior to being applied to the tire casing (Column 3, Line 60 – Column 4, Line 19). It is noted that claim 17 of '964 is generic to this aspect of the cushion gum, only stating that a layer of cushion gum is applied to a tire casing. Second, regarding the velocities of the respective components, it is well known and conventional in the tire industry to slightly decrease the dispensing rate (of the cushion gum or additional rubber layer) as compared to the peripheral velocity of the tire casing in order to obtain a controlled stretch and ultimately optimize the degree of adhesion, as shown for example by Wulkar (Column 4, Lines 58-61). It is noted that while Wulkar fails to specifically recite the variation of linear velocities in applying a cushion gum, the reference more generally recognizes the application of a rubber component or layer in a retreading operation via different velocities in order to optimize the adhesion.

With respect to claim 24, claim 17 of '964 describes a measuring step in which the circumference of the tire casing and cushion gum is recorded. It is clearly evident that one of ordinary skill in the art at the time of the invention would have found it obvious to measure the circumference of the tire casing prior to the application of the cushion gum, as well, in order to apply a precise amount of cushion gum to the tire casing.

Regarding claims 25 and 43, it is well known in the tire industry that the angular rate of the hub or drum can be modified in relation to different tire sizes in order to obtain the same peripheral speed at the surface of the tire casing. This design provides a single apparatus that can accommodate a plurality of tire sizes. Additionally, in view

Art Unit: 1733

of Wulker, the hub/drum and casing combination are rotated at different speeds as compared to the speed at which the length of rubber is dispensed.

With respect to claims 26 and 27, claim 17 of '964 includes a cutting step and while the claim fails to expressly describe if such a step is automatically or manually actuated, one of ordinary skill in the art at the time of the invention would have found it obvious to include either of the claimed methods. In particular, both manual and automatic operations are extensively used in the tire industry, wherein a manual operation allows for human correction and an automatic operation improves efficiency and reduces manual labor.

Regarding claims 30 and 33, stitching is an extremely well known technique in the tire industry that eliminates entrapped air and provides enhanced adhesion. In describing the application of the cushion gum, Lacy includes a stitching step for the reasons noted above (Column 4, Lines 1-10). One of ordinary skill in the art at the time of the invention would have equally recognized the use of a stitching step in the application of the tread for the same reasons noted above.

With respect to claim 31, as mentioned above, Wulker recognizes the relationship between the cushion gum dispensing velocity and the tire casing velocity.

Regarding claims 32 and 34, claim 17 of '964 requires each of the monitoring steps. One of ordinary skill in the art at the time of the invention would have recognized the monitoring described by claim 17 of '964 as being continuous.

With respect to claims 40 and 50, the method of claim 17 in '964 clearly defines an apparatus including a rotatable hub (necessarily rotated by drive or additional

Art Unit: 1733

means), a tread cutter, a tread dispenser (tread is dispensed along a track), a tread drive (track), and a tread applicator (pressure applying means). Regarding the cushion gum applicator, claim 17 of '964 requires that a layer of cushion gum is applied to the tire casing. The specific functioning of such a cushion gum application apparatus would have been obvious to one of ordinary skill in the art at the time of the invention as it represents a common means of applying such a tire component. For example, Wulker recognizes the ability to impart a desired degree of stretching in a retreading operation by controlling the velocities of the dispensing means and the tire casing. Also, claim 17 of '964 clearly defines the track as being adapted to permit the length of tread to be adjusted. Lastly, regarding the variable force applicator, claim 17 of '964 requires that the variable pressure is a function of the circumferential distance of the tire casing and cushion gum not covered by the tread and the length of tire tread not applied to the tire casing and cushion gum.

Regarding claims 41, 42, and 57, claim 17 of '964 includes a measuring step-one of ordinary skill in the art at the time of the invention would have expected such a measurement to be obtained by a measuring device, as is extensively used in the tire industry. It is evident that the measurement device is capable of measuring only the circumference of the tire casing or the circumference of the tire casing and the cushion gum.

With respect to claim 44, while claim 17 of '964 only states that the cushion gum is applied to the tire casing, cushion gum and additional rubber layers are commonly provided in roll form in the tire industry.

Art Unit: 1733

Regarding claims 45-47, this claim does not modify the structure of the claimed invention- the claim is directed to a specific control design in which the drive provides different dispensing rates for the cushion gum spindle and the tire casing. As stated above, one of ordinary skill in the art at the time of the invention would have found it obvious to dispense the respective components at different speeds (could be done by a single drive).

With respect to claim 48, as mentioned above, stitching is an extremely well known technique in the tire retreading industry, as shown for example by Lacy. In this instance, one of ordinary skill in the art at the time of the invention would have expected the stitching to be carried out by stitching rollers- this is the conventional manner in which stitching is carried out.

Regarding claim 54, it is clearly evident that claim 17 of '964 requires the pressure be controlled (as desired) to obtain a continuous tread design.

With respect to claim 55, one of ordinary skill in the art at the time of the invention would have readily appreciated and expected the "pressure controlling" step of claim 17 of '964 to be carried out by pressure or application rollers. The use of pressure or application rollers is extremely well known and conventional in the tire industry, particularly the tire retreading industry.

Regarding claim 56, one of ordinary skill in the art at the time of the invention would have readily appreciated and expected the cushion gum and tread to be aligned (cushion gum and tread need to be centered over casing to eliminate any cutting or inefficient bonding).

This is a provisional obviousness-type double patenting rejection.

***Allowable Subject Matter***

5. Claims 23-27, 30-34, 50, and 54-57 would be allowable if the double patenting rejections set forth in this Office action are overcome. In particular, the prior art references of record failed to suggest, disclose, or teach a retreading method or apparatus in which a variable force is applied (via a variable force applicator) to the tire tread upon application, wherein said force is dependent on the amount of tire casing yet to be covered and the amount of tire tread yet to be applied. As to the retreading apparatus, while Continental recognizes the use of a variable force applicator, the force is a function of the angular rate of the hub and the amount of tread yet to be applied. Thus, the claimed invention differs from Continental in that the control system of the claimed invention requires a measurement of the casing yet to be covered as opposed to a measurement of the angular rate of rotation of the drum. Therefore, one of ordinary skill in the art at the time of the invention would not have been motivated to include the specific control system in the apparatus of Taylor (no prior art references of record recognize using the casing yet to be covered to affect a variable pressure application).

***Response to Arguments***

6. Applicant's arguments filed September 10, 2003 have been fully considered but they are not persuasive. Regarding claims 40-48 (particularly independent claim 40),

applicant argues that Taylor fails to teach or suggest a tread dispenser adapted to automatically dispense a length of tread based on the circumference of the casing or casing and cushion gum, an adjustable tread drive for tread matching, and a cementless cushion gum applicator. As set forth in the rejection above the apparatus of Taylor does dispense a length of tread based on the circumferential measurement of the tire casing. Regarding the adjustable tread drive, the conveying system of Taylor has the capability of being adjusted in order to provide matching tread ends, it being recognized that matching tread ends are desired in the tire industry in view of the APA and Schelkmann. Lastly, as to the cementless cushion gum applicator, Taylor describes the application of a cushion gum with no adhesive (Column 3, Lines 45-55).

### ***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Justin R Fischer** whose telephone number is **(703) 605-4397** (if after December 18, 2003, (571) 272-1215). The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (703) 308-3853. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

*Justin Fischer*  
Justin Fischer

November 14, 2003

*JH Aftergut*  
JEFF H. AFTERGUT  
PRIMARY EXAMINER  
GROUP 1300